

Introduction to Operation Theatre Instruments

Introduction to Operation Theatre (OT) Instruments
Designed for quick reference and easy study

1. Overview of OT Instruments

Category	Primary Purpose	Typical Materials
Cutting & Dissecting	Incise tissue, separate structures	Stainless steel, carbon steel, titanium
Grasping & Holding	Secure tissue, maintain exposure	Hardened steel, sometimes coated with silicone
Clamping & Occluding	Control bleeding, seal vessels	Stainless steel with locking mechanisms
Retracting	Hold back edges of incisions	Stainless steel, sometimes with ergonomic handles
Suturing & Knot tying	Approximate tissue, close wounds	Fine grade steel, sometimes with polymer tips
Specialty / Diagnostic	Specific procedures (e.g., orthopedic, neurosurgery)	Varies – often alloyed metals, ceramics, or optics

2. Classification by Function

2.1 Cutting & Dissecting Instruments

Instrument	Key Features	Common Uses
Scalpel	Straight or curved blade, detachable	Skin incisions, precise cuts
Scissors (Mayo, Metzenbaum, Iris)	Blunt/sharp tips, angled blades	Tissue dissection, suturing material
Surgical Knife (e.g., Beaver blade)	Long, thin blade, often reusable	Deep or extensive cuts
Bone Saw	Fine toothed or oscillating	Orthopedic bone cuts

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Instrument	Key Features	Common Uses
Rongeur	Instruments Heavy-duty, sharp jaws	Bone removal, cartilage excision

2.2 Grasping & Holding Instruments

Instrument	Key Features	Typical Indications
Tissue Forceps (Adson, Gerald)	Ratchet lock, fine tips	Delicate tissue handling
Hemostatic Forceps (Kelly, Crile)	Serrated jaws, locking	Vessel clamping
Allis Clamp	Interlocking teeth, curved	Grasping heavy tissue (e.g., bowel)
Babcock Forceps	Fenestrated jaws	Grasping delicate structures (e.g., ovaries)
Kocher Forceps	Rigid, serrated jaws	Grasping tough tissue (e.g., fascia)

2.3 Clamping & Occluding Instruments

Instrument	Design Highlights	Typical Application
Hemostats (Mosquito, Kelly)	Short, spring-loaded, locking	Small vessel control
Vessel Loops	Elastic silicone, no metal	Temporary vessel retraction
Atraumatic Clamps (e.g., Bulldog)	Smooth jaws, pressure-controlled	Vascular or nerve protection

2.4 Retracting Instruments

Instrument	Shape / Length	Use Cases
Hand-Held Retractors (Richardson, Army-Navy)	Straight, curved, or angled	Small-field exposure
Self-Retaining Retractors (Weitlaner, Bookwalter, Balfour)	Ratchet-locked blades	Large incisions, orthopedic or abdominal surgery

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Instrument	Shape / Length	Use Cases
Surgical Rake Retractor	Multiple teeth	Deep cavity exposure (e.g., spine)

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2.5 Suturing & Knot-tying Instruments

Instrument	Feature	Typical Role
Needle Holders (Mayo, Crile)	Locking jaws	